SAN JOSE'S GREEN VISION

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Chuck Reed
MAYOR

Our problems are man-made, therefore they may be solved by man. No problem of human destiny is beyond human beings.
– John F. Kennedy

For generations, San José has answered the call to change the world. Our innovations have helped move the world from the industrial age to the information age. Today, at the beginning of the 21st Century, we must step forward to help solve the climate and energy crises and protect our environment. In the process, we will help reduce our nation's dependence on foreign fossil fuels and build San José's economy.

The problems are significant. We rely on an uncertain supply of imported water from the Delta. We depend on fossil fuel – much of which comes from unstable regions around the globe – to run our cars, heat and cool our homes and offices, and operate our information society.

Many of us have begun to make changes in our daily lives to address these problems. We recycle more of our household waste than any other large city in the nation. We recycle and reuse 11 million gallons of wastewater each day. We are investing in green buildings. We are a leader in driving hybrid cars.

But we can and must do more. By using our local ingenuity, entrepreneurship, and creative talent, we can create solutions that change the course of global events. What better place than San José, the Capital of Silicon Valley, to create and test the technology that will harness the sun and wind, turn sewage into fuel, and turn garbage into energy.

The Clean Technology revolution is coming. By capitalizing on the innovation that already exists in our community, we can lead the effort. In the process, we will create thousands of new jobs, grow city revenues, expand our local economy, and demonstrate how deploying clean and green technology is fiscally responsible.

To do so, we must establish bold goals that will set San José on a course to lead the world in solving environmental challenges. Our goals focus on three elements: Clean Technology, Sustainability, and Green Mobility. This Green Vision is the roadmap. Our journey starts today.

Chuck Reed

Chuck Reed
Mayor of San José

200 East Santa Clara Street, 18th floor, San José, CA 95113 *tel* (408) 535-4800 *fax* (408) 292-6422 www.sjmayor.org

San José's GREEN VISION

Over the past fifty years, San José has transformed from the Valley of Heart's Delight to the Capital of Silicon Valley. From canneries and packing plants, we've moved to semiconductors and instant communications. We've attracted and welcomed ideas and talent from around the globe. Our residents, companies, and universities constantly move forward and solve the next challenge. We've become known as the world's center for innovation and entrepreneurship with ideas and inventions that have changed the world.

San José's spirit of innovation is inspiring entrepreneurs to develop the technologies that will ensure reliable, clean energy sources, reduce carbon emissions, minimize the use of non-renewable power, and mitigate harmful impacts on the environment.

We believe that ensuring a sustainable future for current and future generations requires new waves of Clean Technology innovation. Without Clean Tech innovation, communities will become more polluted, the effects of global warming will increase, and our consumption of fossil fuels will continue our dependency on foreign oil. Here in San José, local companies are already incubating and producing many of these technologies. They are leading the world in solar technology, alternative fuels, new transportation systems, efficient lighting, and energy monitoring systems innovation. They are transforming San José into a world center of Clean Tech innovation with thousands of new jobs and billions of dollars of new investment.

San José has also long been a leader in environmental stewardship. Our residents participate in and support the City's efforts to recycle garbage, conserve water, reuse wastewater, protect our foothills, and develop responsibly. San José successfully pioneered many commonplace environmental activities, from curbside recycling to our urban growth boundary. Building on our community's history of technological innovation and environmental leadership, San José will advance our Green Vision.

San José's Green Vision is a comprehensive strategy that will show the world how environmental responsibility makes financial sense and stimulates economic opportunity. We will lead the nation in becoming more energy efficient, producing and using electricity from clean renewable sources, creating green buildings, diverting waste from landfills, creating greener street systems, delivering recycled water, and reducing greenhouse gas emissions.

This vision includes 10 bold goals that will serve as a roadmap to reduce the carbon footprint of the tenth largest city in the nation by more than half.

GREEN VISION GOALS

Within 15 years, the City of San José in tandem with its residents and businesses will:

1. Create 25,000 Clean Tech jobs as the World Center of Clean Tech Innovation
2. Reduce per capita energy use by 50 percent
3. Receive 100 percent of our electrical power from clean renewable sources
4. Build or retrofit 50 million square feet of green buildings
5. Divert 100 percent of the waste from our landfill and convert waste to energy
6. Recycle or beneficially reuse 100 percent of our wastewater (100 million gallons per day)
7. Adopt a General Plan with measurable standards for sustainable development
8. Ensure that 100 percent of public fleet vehicles run on alternative fuels
9. Plant 100,000 new trees and replace 100 percent of our streetlights with smart, zeroemission lighting
10. Create 100 miles of interconnected trails

Successfully realizing this vision will require a focused direction for action and a means of regularly measuring progress. By pushing the limits of what is possible, we will all achieve our vision and inspire change globally.

World Center of

CLEAN TECH Innovation

15-YEAR GOAL:

1. Create 25,000 Clean Tech jobs as a World Center of Clean Tech Innovation

It will take significant creativity and innovation to move the cities and countries of the world toward a more sustainable environment, just as it did to move the world from the industrial age into the age of silicon and high tech. More so than any region of the world, San José and Silicon Valley are defined by the ability and willingness to innovate and change. From the defense technologies of World War II, the semiconductors and computers of the information age, or the evolution of the Internet and the virtual world, our local innovations have changed the world.

In this tradition, San José, the Capital of Silicon Valley, will inspire the next wave of innovation: the Clean Technologies that will help the world face the growing climate crisis and meet unprecedented global energy needs. These technological innovations will harness the power of renewable energy sources, manage natural resources more efficiently, and reduce the environmental impacts of human activity.

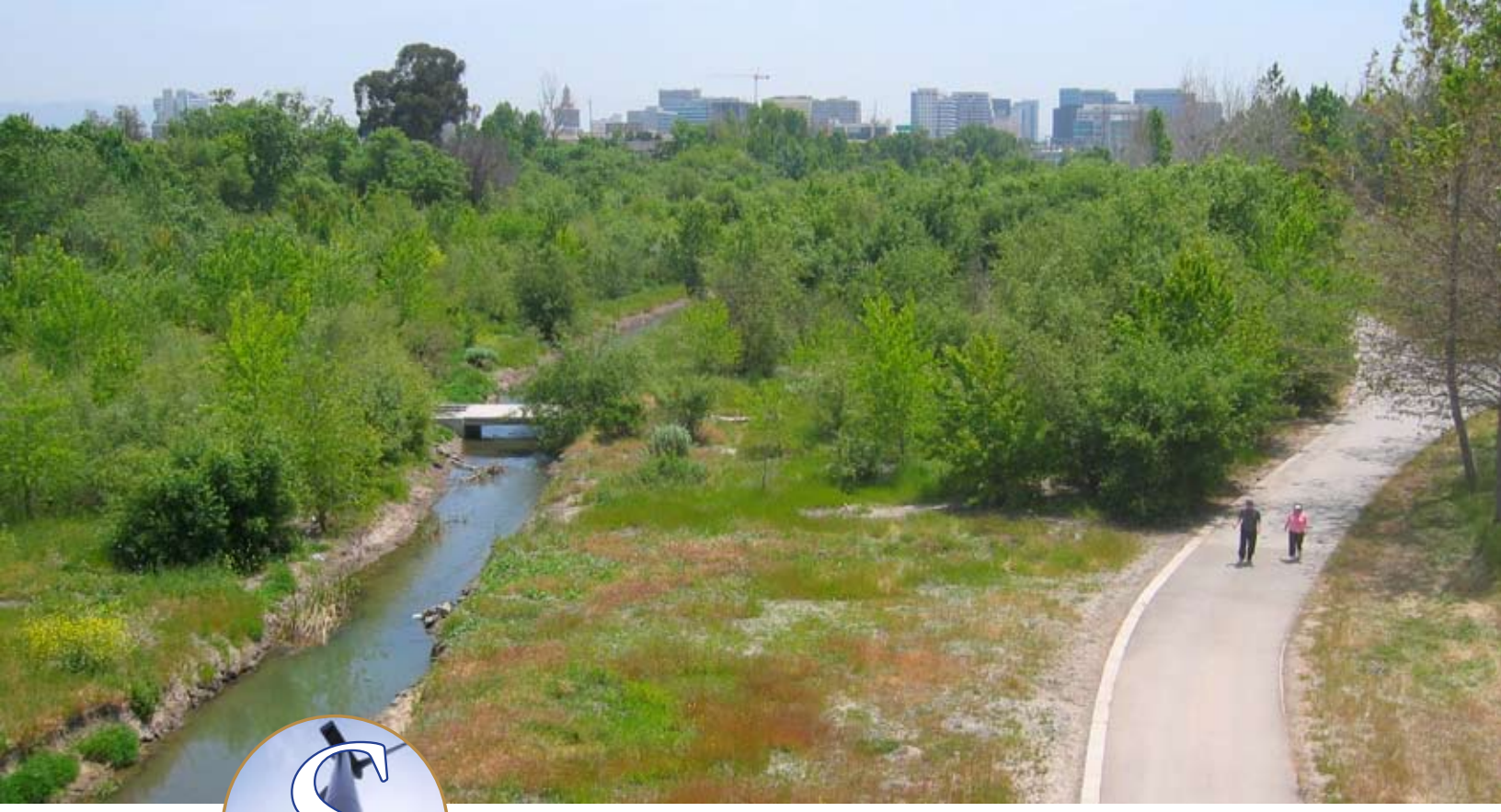
As the world's most competitive knowledge economy and home to more than 1,500 of the world's largest technology firms, San José is positioned to become a world center of Clean Tech innovation. Numerous Clean Tech companies are already benefiting from the region's unrivalled access to venture funding, highly skilled workers and entrepreneurs, world-class research institutions, supportive government policies, and cutting-edge technology incubators like San José's Environmental Business Cluster and the San José BioCenter.

San José companies are inventing, demonstrating, and producing the innovations that will serve communities, businesses, and residents around the world. As a result, local residents are already seizing the emerging economic opportunities to find well-paying jobs that are unlikely to be outsourced.

As San José emerges as a world center of Clean Tech innovation, entrepreneurs, companies, and universities will develop technologies that will change the world and create economic opportunities for generations to come. To provide leadership for the long-term economic success of this emerging industry sector, the City of San José developed its Clean Tech Strategy, which will be an integral component to achieving our Green Vision. The Strategy will ensure that this next wave of innovation occurs in San José and calls for unprecedented public-private partnerships to showcase Clean Tech products to the world, including:

- Providing incentives and services at every stage of growth to encourage both established Clean Tech companies and start-up firms to stay and grow in San José;
- Incubating next generation technologies through partnerships with local universities and the Environmental Business Cluster;
- Attracting innovative firms and talent from around the world;
- Providing demonstration opportunities for innovative Clean Tech products;
- Creating opportunities for local residents to receive training for employment in Clean Tech industries;
- Advocating for legislative changes that will support the Clean Tech industry's growth.

Through these efforts, we will ensure that local companies are able to develop and innovate. We will create more than 25,000 Clean Tech jobs, helping solve the world's environmental challenges, creating a sustainable future, and building San José's economy.



SUSTAINABILITY

15-YEAR GOALS:

2. Reduce per capita energy use by 50 percent
3. Receive 100 percent of our electrical power from clean renewable sources
4. Build or retrofit 50 million square feet of green buildings
5. Divert 100 percent of the waste from our landfill and convert waste to energy
6. Recycle or beneficially reuse 100 percent of our wastewater (100 million gallons per day)

In addition to inspiring and incubating the technologies of the future, San José has a long history of adopting sustainable practices to confront environmental challenges. Across the nation, our city is respected for its environmental innovation and stewardship. Noteworthy accomplishments include highly successful recycling, water conservation, and wastewater management programs; forward-thinking design and development standards; and establishment of the first environmental incubator in the United States.

Recent actions by the San José City Council provide a solid foundation for achieving the goals of the Green Vision. In 2005, San José adopted the goal of becoming a 'Global Sustainable City' and meeting the standards of the U. N. Urban Environmental Accords. In 2007, after the City Council signed on to the U.S. Conference of Mayors' Climate Protection Agreement, it went one step further and adopted the most aggressive municipal greenhouse gas emissions reduction goals in the nation. As part of San José's ongoing environmental leadership, the City is working with residents, business leaders, and government officials to develop a climate action plan for Silicon Valley.

For more than a decade, environmental sustainability has been a guiding principal for the City of San José. We are a national leader in adopting and promoting practices that improve the quality of our air and water and that conserve land, soil, water, energy and ecosystems. To achieve our Green Vision, we must go farther. We will become a global leader in energy efficiency, renewable energy, green building, water conservation and recycling, and waste reduction.

Energy Efficiency

Every year, San José homes, businesses, and public operations consume nearly 6.5 billion kilowatt hours of electricity, which contribute 40 percent of our community's 4.2 million total tons of greenhouse gas emissions. Through efficiency measures alone, San José residents and companies can significantly reduce our energy usage and collectively save billions of dollars that could be invested elsewhere.

Since 2001, San José government has significantly reduced its energy consumption by 200 million kilowatt hours through institution of basic efficiency efforts, resulting in an estimated savings of $20 million. It's an excellent start, but we can do much more.

We've set a goal of reducing our per capita energy consumption by half in the next 15 years and to convert to using 100 percent renewable electrical power. The City of San José will lead the way in this effort, but we haven't set the goal for government alone. Everyone, from residents to businesses, can cut consumption and reduce reliance on foreign fossil fuels.

We will encourage everyone to adopt innovative and smarter energy devices, and to change habits or employ applications that will reduce energy consumption needs and operating expenses. We will demonstrate that energy efficiency saves money and is worth the upfront investment.

The City of San José will partner with residents, private sector entrepreneurs, and civic organizations to become more efficient and to encourage the adoption of innovative efficiency products, including efficient lighting, energy monitoring systems, cool and green roofs, insulation, and smart cooling systems.

The City will also partner with the United States Department of Energy, the Environmental Protection Agency, Pacific Gas and Electric Company, and other organizations to measure our energy consumption and develop implementation strategies for efficiencies. As a result of these efforts, we believe that the San José community will reduce its electrical energy consumption by 50 percent per capita in 15 years.

Renewable Energy

Currently, only 12 percent of the electrical power used in San José comes from renewable sources. At 6.5 billion kilowatt hours a year, switching to 100 percent clean renewable energy sources will drastically reduce San José's carbon footprint.

HISTORY OF LEADERSHIP

HISTORY OF LEADERSHIP: EFFICIENCY AND CLEAN ENERY

2002: **Awarded "Flex Your Power" award for leadership in energy efficiency activities.**

2007: **Awarded "Solar City Award" from NorCal Solar for having most solar installations of any large city in Bay Area.**

Adopted most aggressive municipal greenhouse gas reduction goal in nation, committing to cut municipal greenhouse gas emissions by 25 percent from 1990 levels over the next five years by 50 percent by 2030 and 80 percent by 2045.

Providing affordable renewable options to all electricity users in San José is an ambitious goal, and it will require both innovation and investment. One means of achieving this goal is through solar energy. Governor Schwarzenegger has set a goal of 1 million solar roofs for California, and we believe that San José can supply 10 percent of this total. We have the sunshine, and the solar technology innovations are being developed here.

The City of San José can both save money and help the environment by installing solar on our City facilities, and we can make it easier for individuals and business to do the same. We will support power purchase agreements, helping to facilitate the procurement of solar energy technology. Through partnerships with residents, private sector leaders, and civic organizations, San José will become a national solar showcase with cutting-edge demonstration projects, residential and commercial bulk purchasing arrangements, and solar-powered public buildings. In addition to harnessing solar power, San José will also support the development of innovative technologies and evaluate the use of other clean energy sources, such as wind, water, geothermal, hydrogen, electrochemical and fuel cell technologies, and biomass.

Green Buildings

Ensuring sustainable construction and promoting green building practices are an essential component of our Green Vision. An estimated 40 percent of the community's total energy use and 16 percent of its water goes to buildings. We can change this by building green or retrofitting our existing buildings to reduce energy and water use and incorporate sustainable construction materials. This will significantly reduce our carbon impact. Our goal is big: In 15 years, San José will be home to 50 million square feet of green buildings – the equivalent of nearly 100 buildings the size of San José City Hall.

Whether new construction or retrofitted structures, these buildings will meet high environmental standards, such as achieving a U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) certification. These energy efficient buildings will provide a showcase for local Clean Tech products as well as innovations in green building materials, local commitment to sustainable practices, and the fiscal benefits of building green. The City of San José has already started at home. We recently opened the first green community center, the Starbird Teen Center, and plan to do more. The City also has adopted aggressive standards for requiring green building practices for City facilities and will work with private-sector partners to ensure sustainable commercial and residential construction.

In addition to facilitating new green construction, we will work towards reducing energy use and carbon emissions of existing buildings by encouraging owners to upgrade air conditioning, heating and ventilation systems, retrofit lighting systems, and adopt other green building practices. We will also support innovation in green building materials and systems technology, raise awareness of the benefits of green practices, and provide incentives for individuals who want to build green and use Clean Tech products.

HISTORY OF LEADERSHIP

HISTORY OF LEADERSHIP:
GREEN BUILDING

2001: **City adopts Green Building Program.**

2002: **City's Green Building Program received "Environmental Award" from Acterra.**

2007: **Established LEED™ Gold as the goal for all new City facilities.**

HISTORY OF LEADERSHIP:
WASTE RECYCLING

1987: **Instituted residential recycling citywide.**

1989: **Recognized as State model for recycling.**

1991 & 2002:
Recognized for diverting more waste than any large city in nation (64 percent).

Present:
Continue to divert more waste than most other large cities in the world.

Waste Reduction

We want San José to become a zero waste city. Instead of sending 712,000 tons of garbage to our landfills annually, we will work to divert 100 percent of the waste we generate. Currently, we recycle 62 percent of our garbage and trash citywide. San José residents recycle 286,000 tons each year through the curbside Recycle Plus program alone. First, we'll start by reducing the quantity of waste we create. We will increase the amount we recycle, and we'll reuse more products. In addition, San José will become a world leader in adopting cutting-edge technologies that transform waste into usable energy. Through partnerships with innovative companies, San José will convert solid waste and biosolids into biodiesel, methanol, biogas, and electricity that will power municipal operations and be available to other users.

Water Conservation & Recycling

As California grows, having a reliable water supply becomes even more critical. San José is already a world-leader in water recycling, but we can do more. We must lead by example, not only by maximizing water conservation efforts, but by increasing the quantity of recycled water we produce and distribute. Recycled water has proven its value for irrigation, cooling and manufacturing, and there are many opportunities for growth in these uses.

Today, San José's South Bay Water Recycling recycles about 11 million gallons per day, reaching customers through 110 miles of dedicated piping. By connecting new users to the pipelines and by expanding the system, San José can double the amount of recycled water delivered to major businesses, City parks and landscaping, and school grounds.

Over the next 15 years, we will achieve 100 percent beneficial reuse of the wastewater we capture and treat – 100 million gallons per day – through a combination of water conservation, expanded use of recycled water, and habitat protection. By making the most of this reliable water source, we will ensure that San José and surrounding communities have a sustainable water supply for future generations.

HISTORY OF LEADERSHIP

HISTORY OF LEADERSHIP: WASTEWATER AND WATER RECYCLING

1956: **San José builds wastewater treatment plant to protect San Francisco Bay.**

1979: **Plant evolves into one of the world's largest, most advanced treatment facilities, and supports growth of Silicon Valley.**

1990: **Partnered with private sector to reduce discharge of industrial copper and nickel into Bay by 50 percent.**

1991: **Adopted South Bay Action Plan to ensure drought proof water resource for Silicon Valley.**

Present: **South Bay Water Recycling is largest urban recycled water program in Northern California.**

GREEN Mobility

15-YEAR GOALS:

7. Adopt a General Plan with measurable standards for sustainable development
8. Ensure 100 percent of public fleet vehicles run on alternative fuels
9. Plant 100,000 new trees and replace 100 percent of our streetlights with smart, zeroemission lighting
10. Create 100 miles of interconnected trails

In Santa Clara County, more than 40 percent of our greenhouse gas emissions come from cars, trucks, buses, trains, and other transport. These surface transportation systems are among the largest users of energy and, not surprisingly, the greatest contributors to poor air quality.

While San José has made great strides in recent years to implement sustainability standards for transit-oriented development and urban design, we must take these efforts to the next level. We must create integrated and sustainable ways to get from place to place – a Green Mobility system. We must take action now because, over the next 30 years, the population growth in San José alone is projected to be greater than the growth in San Francisco, Oakland, and Fremont combined.

We must prepare for this population growth to prevent gridlock and pollution. To develop a system of Green Mobility, we must reduce reliance on single-occupant vehicles and ensure that alternative transportation is efficient, convenient, and environmentally sustainable. By focusing on long-term land use planning, reducing emissions from vehicles, embracing clean transportation technology, creating smart green streets, providing pedestrian and bicycling opportunities, and creating a green airport, San José will achieve its vision of Green Mobility.

Long-Term Planning

Urban design and land-use planning are critical to the success of San José's Green Vision. We must continue to lay a foundation for the future by clearly establishing sustainable development standards in our General Plan. We must promote high-density commercial and residential development near transit or on in-fill sites. We must limit low-density housing. Instead, we will encourage builders to create opportunities for residents and employees to walk to retail, entertainment venues, parks, and schools in all neighborhoods. The General Plan Update, Envision San José 2040, will include clear and measurable standards for sustainable development.

Emission Reduction

Green Mobility must also focus on getting people around with the express intent of cutting carbon emissions by decreasing dependency on the automobile and reducing the impacts of the vehicles we must use. We must expand the use of public transportation by creating more Bus Rapid Transit lines, encouraging more people to ride light rail and share vehicles, developing subscription bus service, building BART, and bringing high-speed rail to San José.

San José will lead by example by replacing its city fleet with green vehicles and providing support for alternative vehicles with public plug-in stations and access to alternative fuels. We can install solar systems and energy efficient lighting at our parking facilities. Implementing directional signage will prevent cars from idling while looking for spaces, reducing emissions.

We will encourage the development of smaller, lighter, and alternative fuel vehicles for mass and private transit to reduce adverse impacts on our environment. The City of San José is establishing a center to stimulate the development of such clean, alternative fuel vehicles using Silicon Valley technology.

Partnerships with San José educational institutions will promote walking to school and using zero-emission buses. We will also create local policies to encourage residents and businesses to use zero-emission and hybrid vehicles, and we will advocate for State and Federal legislative action for additional investment in research and consumer incentives.

Smart, Green Streets and Trails

From traffic signals to streetlights, we can make San José streets smarter and environmentally friendly. We will adopt advanced technology such as light emitting diode (LED) efficient lighting, solar-powered lighting systems, and message and traffic intelligence programs to move traffic efficiently.

We will test new ways to pave streets, parking lots, sidewalks, and trails. New pervious surfaces, which allow water to penetrate the surface, offer great promise for being better for our environment. By expanding the urban forest, we will cool our streets and sidewalks, clean our air, improve water quality, and help convert carbon dioxide emissions to oxygen.

HISTORY OF LEADERSHIP

HISTORY OF LEADERSHIP: URBAN DESIGN

San José is a leader in developing and implementing forward-thinking General Plan documents:

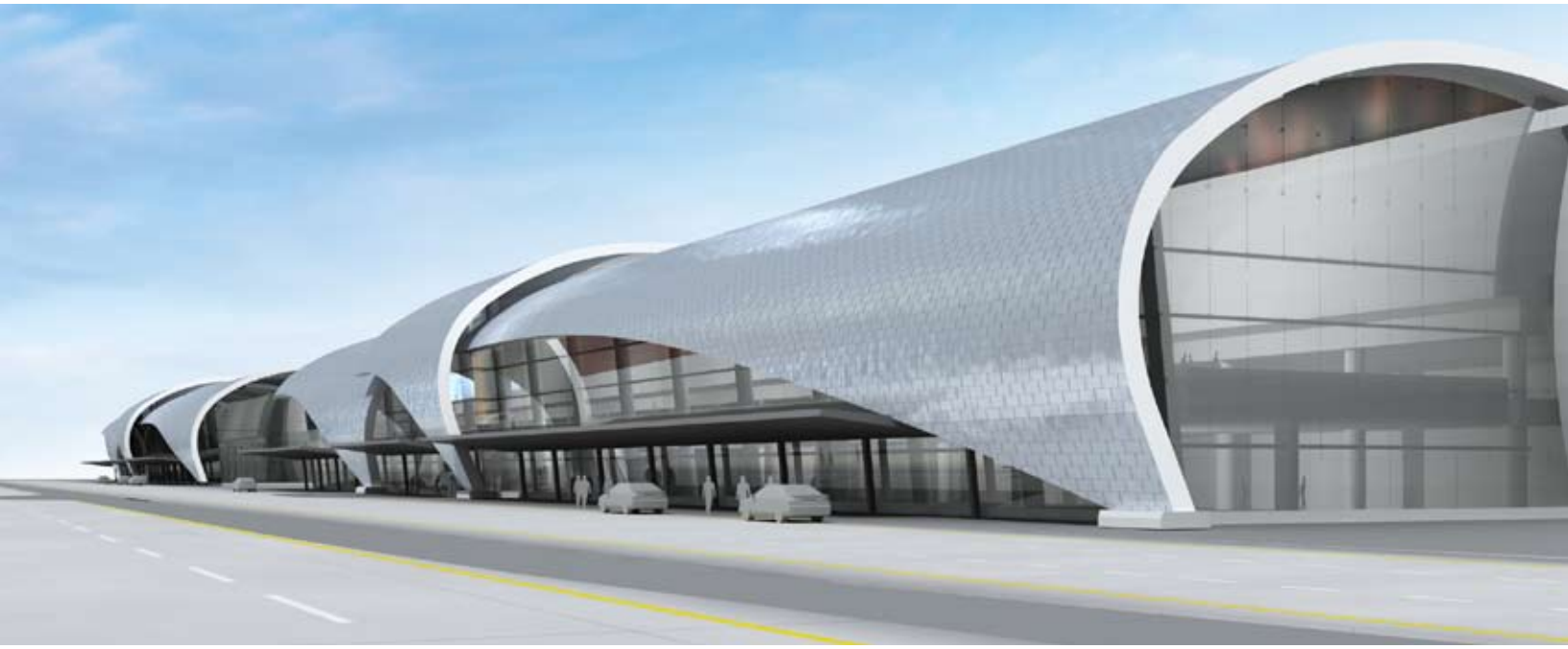
1975: Adopted first General Plan, included plans to end urban sprawl and intensify downtown development.

1984: Adopted Green Line Strategy and sought to preserve habitat lands.

1994: Established Sustainability as a major strategy and incorporated targets for transit oriented design, mixed use development, and transportation choice.

2005: Expanded transportation fees to fund improvements of sidewalks, trails, and transit systems in addition to roadways.

We must encourage more pedestrian and bicycle travel. One option is to install attractive, covered facilities along City sidewalks that will make it more convenient and comfortable for residents to walk and cycle. These cooling stations would serve as bike lockers or benches where people can rest or wait for a bus. At the same time, the stations would collect solar power to run adjacent streetlights.
Expanding our system of park trails to 100 miles will allow residents to travel more easily by bicycle or on foot, as well as encourage exploration and education about our natural habitat so residents better understand the benefits of a healthy environment and value its preservation.



Green Airport

Airports provide numerous opportunities to improve the impacts of moving people and goods. The Norman Y. Mineta San José International Airport will become a global model for environmental responsibility by using green building materials in its construction. The airport will also generate alternative energy, implement energy efficient practices, mitigate noise, and enact initiatives to protect air quality. In addition, San José will continue its leadership in using alternative energy vehicles for airport operations and encouraging the use of zero-emission modes of transportation to get to and from the airport.

Fifteen Years...

STARTS TODAY

The actions that we take today will ensure a sustainable future tomorrow. With our history of innovation and environmental stewardship, it's natural that San José lead this effort and provide solutions to the world. Through innovative partnerships with Clean Tech companies and leaders throughout our community, we will help solve the climate crisis while creating a new economic base for our region. San José will show the world that environmental responsibility makes financial sense.

We cannot accomplish these goals alone. San José's Green Vision can only be accomplished with the help and participation of every member of our community. It won't be an easy task. It will require unprecedented partnerships between the City, residents, businesses, schools, and universities. It will require changing policies locally and advocating for aggressive change and investment at the State and Federal levels. Most importantly, it will require the enthusiasm and participation of every resident of San José.

Our goals are ambitious. However, together we can make this Green Vision a reality and ensure a sustainable environment for generations to come.

Acknowledgments

San Jose's Green Vision was developed through contributions from residents, business owners, industry leaders and city employees. To all, our deepest thanks and appreciation for providing ideas, vetting the goals, assisting with content and otherwise helping to create this ambitious plan. The City of San José looks forward to your continued support. By working together on this plan, we will succeed for our community, our economy and our vision.

This is a publication of the City of San José Communications Office;
original concept and design by Astra Freedman,
photography by Astra Freedman & Yves Zsutty.

In accordance with the Americans with Disabilities Act, City of San José materials can be made available upon request in alternative formats such as Braille, large print, audio and computer disk. Requests may be made by calling (408) 535-8100(v) or (408) 294-9337 (TTY).

Printed on recycled paper with soy-based inks 1/08 5000